

# Andrew J. Fraass, Ph.D.

Visiting Assistant Professor

Specialization: Foraminiferal Paleobiology & Paleoceanography

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**Andrew J. Fraass**

Sam Houston State University  
Department of Geography & Geology  
1900 Avenue I  
Rm. 313 Lee Drain Building  
Huntsville, Texas 77340  
**Office Ph:** (936) 294-1593  
**Cell Ph:** (734) 645-8668  
[fraass@shsu.edu](mailto:fraass@shsu.edu)

## **Educational history** [Year Awarded]

- 2015 Ph.D. Geosciences - University of Massachusetts Amherst  
Advisor - R. Mark Leckie  
Dissertation Title: Ocean Gateways and Glaciation: Planktic Foraminiferal Records from the Southern Ocean, Equatorial Pacific Ocean, and Caribbean Sea
- 2009 M.Sc. Geology - University of Wisconsin Madison  
Advisor - D. Clay Kelly; Co-Advisor - Shanan Peters  
Thesis Title: The Macroevolutionary History of the Planktonic Foraminifera
- 2007 B.S. Zoology & Geology - University of Wisconsin Madison
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## **Research Appointments**

- 2016 - 2017 Peter Buck "Deep-Time" Paleobiology Postdoctoral Fellow  
Smithsonian Institution, National Museum of Natural History,  
Department of Paleobiology
- 2012 - 2015 Research Assistant - R. Mark Leckie, Micropaleontology  
University of Massachusetts Amherst, Geosciences
- 2012 Shipboard Biostratigrapher - *JOIDES Resolution*  
IODP Expedition 340 - Lesser Antilles Volcanism and Landslides
- 2009 Research Assistant - Shanan Peters, Stratigraphy  
University of Wisconsin Madison, Geology and Geophysics
- 2007 - 2009 Research Assistant - D. Clay Kelly, Micropaleontology  
University of Wisconsin Madison, Geology and Geophysics
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## **Teaching Appointments**

### **Sam Houston State University**

GEOL134 - Historical Geology Visiting Assist. Professor 2017 Fall

GEOL440 - Stratigraphy & Sedimentation Visiting Assist. Professor 2017 Fall

### **University of Massachusetts Amherst**

GeoSci 101 - The Earth Teaching Associate - Sole Lecturer 2011 Fall

Teaching Assistant 2010 Fall

GeoSci 201 - History of the Earth Teaching Assistant 2010, 2011 Spring

GeoSci 103 - Intro. Oceanography Teaching Assistant 2009 Fall

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## **Peer-Reviewed Journal Articles** [Student co-author\*]

1. **Fraass, A.J.**, Wall-Palmer, D., Leckie, R.M., Hatfield, R.G., Burns, S.J., Le Friant, A., Ishizuka, O., Aljahdali, M., Jutzeler, M., Martinez-Colon, M., Palmer, M., & Talling, P.J., 2017, A revised Plio-Pleistocene age model and paleoceanography of the northeastern

- Caribbean Sea: IODP Site U1396 off Montserrat, Lesser Antilles, *Stratigraphy*, 13(3), 183-203.
2. De Mello, R.M., Leckie, R.M., **Fraass, A.J.**, & Thomas, E., 2017, Upper Maastrichtian-Eocene benthic foraminiferal biofacies of the Brazilian margin, western South Atlantic. *In*, Kaminski, M., & Alegret, L., eds., Proceedings of the Ninth International Workshop on Agglutinated Foraminifera, *Gzybowski Foundation Special Publication*, 22, 119-161.
  3. **Fraass, A.J.**, & Lowery, C.M., 2017, Defining Uncertainty and Error in Planktic Foraminiferal Oxygen Isotope Measurements, *Paleoceanography*, 32, doi: 10.1002/2016PA003035.
  4. Coussens, M.F., Wall-Palmer, D., Talling, P.J., Watt, S.F.L., Hatter, S.J., Cassidy, M., Clare, M., Jutzeler, M., Hatfield, R., McCanta, M., Kataoka, K.S., Endo, D., Palmer, M.R., Stinton, A., Fujinawa, A., Boudon, G., Le Friant, A., Ishizuka, O., Gernon, T., Adachi, T., Aljahdali, M., Breitzkreuz, C., **Fraass, A.J.**, Hornbach, M.J., Lebas, E., Lafuerza, S., Maeno, F., Manga, M., Martinez-Colon, M., McManus, J., Morgan, S., Saito, T., Slagle, A., Subramanyam, K.S.V., Tamura, Y., Trofimovs, J., Villemant, B., Wang, F., & the Expedition 340 scientists, 2016. Synthesis: stratigraphy and age control for IODP Sites U1394, U1395, and U1396 offshore Montserrat in the Lesser Antilles, *in* Le Friant, A., Ishizuka, O., Stroncik, N.A., and the Expedition 340 Scientists, *Proceedings of the Integrated Ocean Drilling Program*, Volume 340.
  5. Hornbach, M., Manga, M., Genocov, M., Valdez, R., Peter, M., Saffer, D., Lafuerza, S., Adachi, T., Breitzkreuz, C., Jutzeler, M., Le Friant, A., Ishizuka, O., Morgan, S., Slagle, A., Talling, P., **Fraass, A.J.**, Watt, S., Stroncik, N., Klaus, A., Aljahdali, M., Boudon, G., Fujinawa, A., Hatfield, R., Kataoka, K., Maeno, F., Martinez-Colon, M., McCanta, M., Palmer, M., Stinton, A., Subramanyam, K. S. V., Tamura, Y., Villemant, B., Wall-Palmer, D., & Wang, F., 2015, High pore pressure in Lesser Antilles submarine slide deposits inferred from seismic velocities and rock physics models, *Journal of Geophysical Research - Solid Earth*. doi:10.1002/2015JB012061
  6. Le Friant, A., Ishizuka, O., Boudon, G., Palmer, M., Talling, P., Villemant, B., Adachi, T., Aljahdali, M., Breitzkreuz, C., Brunet, M., Caron, B., Coussens, M., Deplus, C., Endo, D., Feuillet, N., **Fraass, A.J.**, Fujinawa, A., Hart, M., Hatfield, R.G., Hornbach, M., J., Jutzeler, M., Kataoka, K. S., Komorowski, J-C, Lebas, E., Lafuerza, S., Maeno, F., Manga, M., Martinez-Colon, M., McCanta, M., McManus, J., Morgan, S., Saito, T., Slagle, S., Sparks, R.S.J., Stinton, A., Stroncik, N., Subramanyam, K. S.V., Tamura, Y., Trofimovs, J, Voight, B., Wall-Palmer, D., Wang, F., & Watt, S.F.L., 2015, Submarine record of volcanic island construction and collapse in the Lesser Antilles: First scientific drilling of submarine volcanic island landslides by IODP Expedition 340. *Geochem. Geophys. Geosyst.*, 16(2), doi: 10.1002/2014GC005652
  7. **Fraass, A.J.**, Kelly, D.C., & Peters, S.E., 2015, The Macroevoolutionary History of the Planktic Foraminifera, *Annual Reviews of Earth and Planetary Sciences*, 43, DOI: 10.1146/annurev-earth-060614-105059
  8. Wall-Palmer, D., Coussens, M., Talling, P. J., Jutzeler, M., Cassidy, M., Marchant, I., Palmer, M. R., Watt, S. F. L., Smart, S. W., Fisher, J. K., Hart, M. B., **Fraass, A.J.**, Trofimovs, J., Le Friant, A., Ishizuka, O., Adachi, T., Aljahdali, M., Boudon, G., Breitzkreuz, C., Endo, D., Fujinawa, A., Hatfield, R., Hornbach, M. J., Kataoka, K., Lafuerza, S., Maeno, F., Manga,

- M., Martinez-Colon, M., McCanta, M., Morgan, S., Saito, T., Slagle, A. L., Stinton, A. J., Subramanyam, K. S. V., Tamura, Y., Villemant, B., & Wang, F., 2013, Late Pleistocene stratigraphy of IODP Site U1396 and compiled chronology offshore of south and south west Montserrat, Lesser Antilles, *Geochem. Geophys. Geosyst.*, 15, doi:10.1002/2014GC005402
9. Peters, S.E., Kelly, D.C., & **Fraass, A.J.**, 2013, Oceanographic controls on the diversity and extinction of planktonic foraminifera, *Nature*, 493:398-401. [News & Views, Holland, pp. 308-9]
  10. Manga, M., Hornbach, M. J., Le Friant, A., Ishizuka, O., Stroncik, N., Adachi, T., Aljahdali, M., Boudon, G., Breitzkreuz, C., **Fraass, A.J.**, Fujinawa, A., Hatfield, R., Jutzeler, M., Kataoka, K., Lafuerza, S., Maeno, F., Martinez-Colon, M., McCanta, M., Morgan, S., Palmer, M. R., Saito, T., Slagle, A., Subramanyam, K.S.V., Tamura, Y., Talling, P. J., Villemant, B., Wall-Palmer, D., & Wang, F., 2012, Heat flow in the Lesser Antilles island arc and adjacent back arc Grenada basin, *Geochem. Geophys. Geosyst.*, 13, Q08007. doi: 10.1029/2012GC004260

### Unrefereed Publications

1. Le Friant, A., Ishizuka, O., Stroncik, N.A., & **Expedition 340 scientists**, 2013, Expedition 340: Lesser Antilles Volcanism and Landslides, *Proceedings of the Integrated Ocean Drilling Program*, 340, doi:10.2204/iodp.proc.340.106.2013 (**Fraass** - Biostratigraphy Section Ed.)
2. Stroncik, N., Le Friant, A., Ishizuka, O., & **Expedition 340 scientists**, 2012, Expedition 340: Lesser Antilles Volcanism and Landslides, *Integrated Ocean Drilling Program, Preliminary Report*, 340, doi: 10.2204/iodp.pr.340.2012

### In Review

1. Wade, B. S., Pearson, P. N., Olsson, R.K., **Fraass, A.J.**, & Leckie, R. M., Taxonomy, Biostratigraphy, and Phylogeny of Oligocene and lower Miocene *Dentoglobigerina* and *Globoquadrina*. (*Atlas of Oligocene Planktonic Foraminifera*) Atlas in external review.
2. Leckie, R. M., Wade, B.S., Pearson, P.N., **Fraass, A.J.**, King, D.J., Olsson, R.K., Premoli Silva, I., Spezzaferri, S., & Berggren, W.A., Taxonomy, Biostratigraphy, and Phylogeny of Oligocene *Paragloborotalia* and *Parasubbotina*. (*Atlas of Oligocene Planktonic Foraminifera*) Atlas in external review.

### Prepared

1. **Fraass, A.J.**, & Leckie, R.M., Oligocene Planktic Foraminiferal Taxonomy and Evolution: an Illustrated Revision of Ocean Drilling Site 803. (Ready for submission to *Journal of Foraminiferal Research*)

### Grants and Funding [Year Received/Offered]

- 2017 "Extending Ocean Drilling Pursuits [eODP]: Microfossils and Stratigraphy"  
PI: A. Fraass; co-PIs: J. Sessa, L. LeVay, B. Huber  
National Science Foundation: EarthCube Integration *PENDING* \$936,644
- 2017 "The Impact of Abrupt Climate Change on Trait Variability and Microevolution"  
University of Southampton - T. Ezard, Supervisor  
The Royal Society - Newton Postdoctoral Research Fellowship *PENDING* £62,946
- 2016 "Demystifying the IODP Proposal Process for Early Career Scientists: North Atlantic Ocean"

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|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|      | PIs: C. Lowery & A. Fraass; co-PIs: M. Patterson, J. Dodd, J. Coenen<br>Consortium for Ocean Leadership & International Ocean Discovery Program<br>Workshop held Jan. 23-26, 2017, University of Texas-Austin                                      | \$40,000  |
| 2015 | “Controls on Species Longevity during Cretaceous Environmental Crises”<br>Smithsonian Institution National Museum of Natural History - B. Huber, Supervisor<br>Peter Buck “Deep-Time” Paleobiology Fellowship                                      | \$104,000 |
| 2015 | “The Impact of Abrupt Climate Change on Trait Variability and Microevolution”<br>University of Southampton - T. Ezard, Supervisor<br>The Royal Society - Newton Postdoctoral Research Fellowship<br>Offered, but previously accepted NMNH position | £61,171   |
| 2012 | “The Oligocene-Miocene Boundary: CO <sub>2</sub> Sensitivity and the Problem of Ice Sheet<br>Hysteresis”<br>NSF P2C2, PI: R. DeConto, co-P.I.s: M. Pagani, D. Pollard, R.M. Leckie<br>Graduate Contributors: Y. Zhang, A. Fraass                   | \$900,000 |
| 2012 | “The Paleoceanography of Site U1396, Expedition 340”<br>Integrated Ocean Drilling Project - Post Expedition Award<br>PI: A. Fraass (PI of Record: R. Mark Leckie)                                                                                  | \$15,000  |
| 2011 | Ed Picou Fellowship<br>Gulf Coast Section, Society of Economic Paleontologists & Mineralogists                                                                                                                                                     | \$1,500   |
| 2010 | Loeblich & Tappan Student Research Award - Cushman Foundation                                                                                                                                                                                      | \$1,000   |

## Activities & Service

### Discipline Service

|                |                                                                                                                                          |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 2016           | Reviewer - Palaeontologia Electronica, Journal of Micropaleontology, Geological<br>Journal                                               |
| 2016 - Present | PF@Mikrotax Project Team member                                                                                                          |
| 2015           | “Decoding Paleoenvironmental Proxies-Developments, Challenges, Refinements,<br>Mechanisms” Convener/Co-chair, American Geophysical Union |
| 2014, 2015     | Reviewer - International Ocean Discovery Program, Proceedings Volumes                                                                    |
| 2013           | Shipboard Participant - R/V <i>Endeavor</i> , Expedition 524                                                                             |
| 2012           | Paleontology & Biostratigraphy Section Editor<br>IODP Expedition 340, Initial Report                                                     |
| 2011 - 2015    | Managing Director of FACTbase, L.L.C.<br>Foraminiferal And Chronostratigraphic Tool and database                                         |
| 2009 - Present | Member - Oligocene Planktic Foraminiferal Taxonomy Working Group                                                                         |
| 2008 - 2009    | Founding Member - Sed-Paleo Reading Group - UWisc Madison                                                                                |

### Departmental Service

|             |                                                                   |
|-------------|-------------------------------------------------------------------|
| 2016 - 2017 | Organizer - Evolution Reading Group - Dept. Paleobiology, SI NMNH |
| 2010 - 2012 | Co-Organizer of Geoscience Lecture Series - UMass Amherst         |
| 2010 - 2011 | Member - Geobiology Faculty Search Committee - UMass Amherst      |
| 2008 - 2009 | Graduate GeoClub Officer - UWisc Madison                          |

### Scholarships & Awards received

|             |                                                                         |                 |
|-------------|-------------------------------------------------------------------------|-----------------|
| 2015        | Cushman Foundation Student Travel Award - Geological Society of America |                 |
| 2011 - 2012 | Isenberg Innovation Challenge: - FACTbase Team                          | Total: \$26,500 |

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|------|-------------------------------------------------------------------------|----------|
|      | Minute Pitch: 1 <sup>st</sup> Place                                     | \$1,000  |
|      | Final Business Plan Competition: 1 <sup>st</sup> Place                  | \$25,000 |
| 2010 | Geology Teaching Assistant of the Year Award 2010 - UMass Geosciences   |          |
| 2010 | Cushman Foundation Student Travel Award - FORAMS meeting                |          |
| 2008 | UWisc - Madison Field Experience Scholarship (Wasatch-Uinta Field Camp) |          |

### **Public Engagement**

|              |                                                                                                 |  |
|--------------|-------------------------------------------------------------------------------------------------|--|
| 2017         | <u>Time Scavengers (website)</u> , Site Contributor                                             |  |
| 2017         | Our Climate Change Horoscope: What Tiny Fossils from the Ocean Can Tell Us about Climate Change |  |
|              | Invited Talk: Citizens' Climate Lobby, Arlington/Alexandria, VA Chapter                         |  |
| 2017         | Youth Engagement through Science! (YES! 2.0) Mentor, SI NMNH                                    |  |
| 2016-Present | FossiLab Outreach Program, SI NMNH                                                              |  |
| 2016         | Youth Engagement through Science! (YES! 1.0) Mentor, SI NMNH                                    |  |
| 2016         | Natural History Research Experience (NSF-REU) Mentor, SI NMNH                                   |  |
| 2016         | Scientist is In - Q?rius, SI NMNH                                                               |  |
| 2013         | Shipboard Scientist - R/V <i>Endeavor</i> to Chicopee High School, MA                           |  |
| 2012         | Shipboard Scientist - Live! Aboard <i>JOIDES Resolution</i>                                     |  |
| 2011         | Scientist - STEM Rays - Science Outreach Program                                                |  |
| 2011         | Scientist - STEM Career Day - Holyoke Catholic High School                                      |  |
| 2007 - 2009  | Organizing Committee - UWisc - Darwin Day Celebration                                           |  |

### **Workshops and Short Courses Attended**

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|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 2017 | University of Michigan Teach Out.3x Stand Up for Science: Practical Approaches to Discussing Science that Matters (online via edX)                                                                                  |  |
| 2017 | Drilling strategies for assessing links between Quaternary Gulf Stream dynamics, pore pressure evolution, and slope stability on the Western North Atlantic Margin - International Ocean Discovery Program Workshop |  |
| 2017 | Demystifying the IODP Proposal Process for Early Career Scientists: North Atlantic Ocean - International Ocean Discovery Program Workshop                                                                           |  |
| 2016 | Antarctica's Cenozoic Ice and Climate History: New Science and new challenges of drilling in Antarctic waters - International Ocean Discovery Program Workshop                                                      |  |
| 2014 | IsoAstro Geochronology Workshop: The integration and intercalibration of radioisotopic and astrochronologic time scales - University of Wisconsin                                                                   |  |
| 2014 | Business Foundations Series for Scientists and Engineers - UMass Amherst                                                                                                                                            |  |
| 2014 | Center for the Integration of Research, Teaching, & Learning - UMass Amherst, Various Programs                                                                                                                      |  |
| 2013 | Statistics and Sampling Theory - Microfossils 3                                                                                                                                                                     |  |
| 2012 | Reconstructing Earth's Deep-Time Climate: the State of the Art in 2012 - Geological Society of America                                                                                                              |  |
| 2011 | Urbino Summer School for Paleoclimatology - Urbino, Italy                                                                                                                                                           |  |
| 2011 | Preparing for an Academic Career in the Geosciences Workshop - On The Cutting Edge                                                                                                                                  |  |
| 2011 | Teaching with Animations in the Geosciences Workshop                                                                                                                                                                |  |
| 2010 | Quantitative Paleobiology Short Course - Geological Society of America                                                                                                                                              |  |

## **Skills**

R Programming and multivariate statistics

Oxygen and Carbon Stable Isotopes, Mass Spectrometry (Finnigan Delta XL+ with linked Kiel III)

Imaging techniques (e.g., Scanning Electron Microscope, light microscopy)

Macro- and Microevolutionary analysis

Time series analysis

Chronostratigraphy development (esp. integration of IODP data sources, astrochronology, and biostratigraphy)

Planktic foraminiferal biostratigraphy, taxonomy, and assemblage analysis

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## **Professional Affiliations**

Geological Society of America, American Geophysical Union, Cushman Foundation for Foraminiferal Research

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## **Collaborators** (active projects or major contributions to recent publications)

Mark Leckie, Professor - University of Massachusetts Amherst; Robert DeConto, Professor - University of Massachusetts Amherst; Renata Moura de Mello, Biostratigrapher - Petrabras; Yige Zhang, Assistant Professor - Texas A&M; Paul Pearson, Professor - University of Cardiff; Bridget Wade, Professor - University College London; Richard Olsson, Professor - Rutgers University; Adriane Lam, Ph.D. Candidate - University of Massachusetts Amherst; Deborah Wall-Palmer, Leverhulme Trust Research Fellow - Plymouth University; Robert Hatfield, Postdoctoral Research Associate - Oregon State University; Martin Palmer, Professor - University of Southampton; Mohammed Aljahdali, Ph.D. Candidate - Florida State University; Trine Arp, Ph.D. Candidate - Natural History Museum of Denmark & University of Copenhagen; Christopher Lowery, Richard T. Buffler Postdoctoral Fellow - University of Texas Institute for Geophysics; Brian Huber, Curator of Planktic Foraminifera - Smithsonian Institution, National Museum of Natural History; Thomas Ezard, NERC Advanced Research Fellow - University of Southampton; Barbara Balestra, Assistant Project Scientist - University of Santa Cruz & Research Associate - Smithsonian Institution, National Museum of Natural History; Jocelyn Sessa, Senior Scientist - American Museum of Natural History; Leah Levay, Expedition Project Manager/Staff Scientist - International Ocean Discovery Program

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## **Posters & Talks** (*Presenting Author*) (\***Student Author**) (**Invited Talk**)

1. **Fraass, A.J.**, 2017, Gulf Stream position from 0 to 20 ka (IODP Shelf stability workshop, Southern Methodist University)
2. **Fraass, A.J.**, 2017, Explaining Ice Growth at the Oligocene-Miocene Transition: Marine Records from Equatorial Pacific and Southern Oceans (Department of Atmospheric, Oceanic and Earth Sciences, George Mason University)
3. **Fraass, A.J.**, 2017, Explaining Ice Growth at the Oligocene-Miocene Transition: Marine Records from Equatorial Pacific and Southern Oceans (Paleo Brownbag, University of Texas Austin)

4. **Fraass, A.J.** & Lowery, C.M., 2016, Defining Uncertainty and Error in Planktic Foraminiferal Oxygen Isotope Measurements (Poster, American Geophysical Union)
5. **Palmer, M.R., Fraass, A.J.,** Hatfield, R.G., & McCanta, M.C., 2016, The pace of arc volcanism (Poster, American Geophysical Union)
6. **Fraass, A.J.,** Leckie, R.M., DeConto, R., & McQuaid, C.\*, 2016, Paleoceanography at ODP Site 744: a holistic “preconditioning hypothesis” explanation for the Oligocene Miocene Transition (Talk, Geological Society of America)
7. Sorman, M. \*, **Fraass, A.J.,** Huber, B., Wiggins, J.\*, & Acha, B.\*, 2016, Morphometric study of the *Rotalipora* lineage (planktic foraminifera) during the middle and late Cenomanian. (Poster, Geological Society of America)
8. Huber, B.T., Braoudakis, G.V.\*, Gold, Z.W.\*, **Fraass, A.J.,** 2016, A morphometric approach to refining species concepts for the late Cretaceous Planktic Foraminiferal genus *Globigerinelloides* (Poster, Geological Society of America)
9. Sorman, M. \*, **Fraass, A.J.,** Huber, B.T., Wiggins, J.\*, & Acha, B.\*, 2016, Morphometric study of the *Rotalipora* lineage (planktic foraminifera) during the middle and late Cenomanian. (Natural History Research Experience Symposium, National Museum of Natural History)
10. **Fraass, A.J.,** 2016, Explaining Ice Growth at the Oligocene-Miocene Transition: Marine Records from Equatorial Pacific and Southern Oceans (Department of Paleobiology, Smithsonian Institution, National Museum of Natural History)
11. **Fraass, A.J.,** Leckie, R.M., McQuaid, C.\*, DeConto, R., & Zachos, J., 2015, Multi-proxy evidence for oceanographic changes in the Southern Ocean during the lead-up to the Oligocene/Miocene Boundary (Mi-1 Event) (American Geophysical Union)
12. Lowery, C., & **Fraass, A.J.,** 2015. (Sample) Size Matters: Defining Error in Planktic Foraminiferal Isotope Measurement (American Geophysical Union)
13. **Fraass, A.J.,** Leckie, R.M., McQuaid, C.\*, & DeConto, R., 2015, Oceanographic changes across the Oligocene/Miocene boundary (Mi1 Event): ODP Site 744, southern Kerguelen Plateau (Geological Society of America)
14. McQuaid, C. \*, **Fraass, A.J.,** Leckie, R.M., & Burns, S., 2015, Isotopic Evidence of the Oligocene/Miocene Boundary Mi-1 Glaciation Event at ODP Site 744, Southern Kerguelan Plateau (5-College Undergraduate Research Symposium)
15. **Fraass., A.J.,** Wall-Palmer, D., Hatfield, R., & Leckie., R.M., 2015, Integrated Planktic Foraminifera Biostratigraphy and Astrochronology for Site U1396, Exp. 340 (Expedition 340 Post-Cruise Meeting)
16. Wall-Palmer, D., Coussens, M., **Fraass, A.J.,** Smart, C., Kirby, R., & Hart, M., 2015, Clues from the fossil record of holoplanktic gastropods at IODP Site U1396, U1395, and U1394 (Expedition 340 Post-Cruise Meeting)
17. **Fraass., A.J.,** Leckie, R. M., & Lowrey, C., 2014, Origination and dispersal of *Paragloborotalia kugleri* out of the Indian Ocean at the Oligocene/Miocene boundary (Geological Society of America)
18. **Fraass., A.J.,** Leckie, R. M., & Lowrey, C., 2014, Origination and dispersal of *Paragloborotalia kugleri* out of the Indian Ocean at the Oligocene/Miocene boundary (Isoastrochronology)
19. **Fraass., A.J.,** Dameron, S., Dameron, J., Lowery, C., Nathan, S., & Leckie, R.M., 2013, FACTbase: A new solution for foram identification (Microfossils 3)

20. **Fraass, A.J.**, Castañeda, I., Phu, V., Leckie, R.M., & Expedition 340 Science Party, 2013, Preliminary Foram Biostratigraphy and Organic Biomarker Paleotemperature Results from Site U1396, IODP 340. (Microfossils 3)
21. **Leckie, R.M.**, Fox, L., **Fraass, A.J.**, Olsson, R., Pearson, P., Premoli-Silva, I., Spezzaferri, S., & Wade, B., 2013. Status and Phylogeny of Paragloborotalia during the Oligocene to early Miocene (Microfossils 3)
22. **Fraass, A.J.**, Castañeda, I., Phu, V., & Leckie, R.M., Expedition 340 Science Party, 2012, Preliminary Foram Biostratigraphy and Organic Biomarker Paleotemperature Results from Site U1396, IODP 340. (Geological Society of America)
23. **Fraass, A.J.**, & Leckie, R.M., 2011, Revisiting the Planktic Taxonomy at Site 628A. (Geological Society of America)
24. **Fraass, A.J.**, & Peters, S., 2010., Statistical Evidence for Selectivity in the Planktic Foraminifera. Geological Society of America Annual Meeting (Geological Society of America)
25. **Peters, S.**, Kelly, D.C., & **Fraass, A.J.**, 2010, Deep-Sea Macrostratigraphy and the Macroevolution of Planktic Foraminifera. (Geological Society of America)
26. **Fraass, A.J.**, Peters, S., & Kelly D.C., 2010, Statistical Evidence for Selectivity in the Planktic Foraminifera. (FORAMS 2010)
27. **Fraass, A.J.**, & Leckie, R.M., 2010, Revisiting the Planktic Taxonomy at Site 628A. (FORAMS 2010)
28. **Fraass, A.J.**, Peters, S., & Kelly, D.C., 2009, The Macroevolutionary History of the Planktonic Foraminifera. North American Paleontological Convention (North American Paleontological Convention)
29. **Fraass, A.J.**, Peters, S., & Kelly, D.C., 2009, Diversity Trends in the Planktonic Foraminifera. North Central Geological Society of America Meeting (North Central - Geological Society of America)